

Essential Skills Test | Study Guide

Directions: Refer to your notes and homework video tutors to review any concepts that you know you need to review.

Lessons 2-1 and 2-2 Mean, Median and Mode

- 1) What are the two steps you must follow in order to find the **mean** of a data set?

Step 1: _____

Step 2: _____

- 2) What must you do with a set of data **before** you find the **median**?

- 3) Find the mean, median and mode for each set of data.

16 , 17 , 4 , 12 , 4 , 4 , 2 , 17 , 20

Mean = _____ Median = _____ Mode= _____

Multiplying and Dividing Whole Numbers-Show your work to multiply or divide.

4) 12×18

5) 345×17

6) $459 \div 9$

7) $984 \div 12$

Lesson 1-5 through 1-6 Understanding Decimal Place Value/Rounding & Comparing Decimals

8) In the number 8.515 the 5 in the tenths place is _____ times smaller than the 5 in the thousandths place.	9) Round 5.467 to the nearest: Tenth _____ Hundredth _____ Whole Number _____
10) Compare using <, > or =. a) 1.05 _____ 0.345 b) 6.7 _____ 6.70 c) 0.0156 _____ 0.156	11) Multiply/Divide by moving the decimal point appropriately: a) $5.6 \times 10 =$ _____ b) $5.6 \times 1000 =$ _____ c) $78.3 \div 100 =$ _____ d) $78.3 \div 10 =$ _____

Lessons 1-7 through 1-8 All Operations with Decimals- Find each sum, difference, product or quotient below. Then, write your answer in **word form** Show all of you work.

12) $5 + 12.08$ Word Form:	13) $9 - 1.45$ Word Form:
14) $16.03 + 5.28$ Word Form:	15) $0.8 - 0.126$ Word Form:
16) $53 \times .04$ Word Form:	17) $3.702(1.7)$ Word Form:

18)	$385.6 \div 8$	19)	$2.25 \div 0.5$
Word Form:		Word Form	

Lessons 3-5 to 3-7 Solve One Step Equations

What operation will “undo” addition? What operation will “undo” subtraction?

What operation will “undo” multiplication? What operation will “undo” division?

Key Reminders:

- Remember to **isolate the variable** using the **inverse operation**.
- Show your work performing the same operation to **both sides** of the equation in order to keep it **balanced**.

20)	$2.7 + m = 8.2$	21)	$n - 3.2 = 15$
22)	$25h = 450$	23)	$b \div 11 = 87$

Lessons 5-2 to 5-5 Adding and Subtracting Fractions and Mixed Numbers- Show your work to find each sum or difference. Write all of your answers in simplest form.

Key Reminders:

- Before you can add or subtract, your fractions need to have a **common denominator**
- You **may** need to borrow (regroup) when you are subtracting mixed numbers

24) $7\frac{3}{5} + 13\frac{2}{3}$	25) $7\frac{2}{3} - 1\frac{5}{9}$
26)	27)

Lessons 6-2 to 6-4 Multiplying and Dividing Fractions Show your work to find each sum or difference. Write all of your answers in simplest form.

Key Reminders:

- When multiplying, always check to see if you can **reduce before you multiply**
- For division, multiply by the **reciprocal** (leave it, change it, flip it)

28)	29)
-----	-----

30)	31) $8 \div \frac{4}{5}$
-----	--------------------------

Fraction-Decimal Equivalence- Change each fraction to a decimal and each decimal to a fraction.

32) $\frac{2}{3}$	33) $5 \frac{3}{5}$
34) 0.35	35) 8.08

Lesson 6-7 Converting Units in the U.S. Customary System -Show your work to complete each conversion.

Key Notes:

Step 1- Identify whether you are going to multiply or divide:

Larger Unit → Smaller Unit (Multiply!)

Smaller Unit → Larger Unit (Divide!)

Step 2- Choose the appropriate

conversion(s) from the chart

Step 3- Complete the operation to convert to the new units

36) 3 mi = _____ feet	37) 32 oz. = _____ lb(s)	38) 40 in. = _____ ft.
-----------------------	--------------------------	------------------------

Lesson 1-4 Order of Operations- Simplify (solve) each expression.

Key Reminders:

- Follow the correct **order of operations** (Parentheses, Exponents, Multiply and Divide from left to right, Add and Subtract from left to right)
- Rewrite the expression after each step so you don't get lost.

39)	40)

Lessons 3-2 & 3-3 Evaluating Algebraic Expressions- Simplify each expression

Key Reminders:

- Replace **variables** with the values given
- Follow the order of operations to solve the expressions
- remember- if there is no operation sign- it means multiply (ex: $5ab$ means $5 \times a$)

41) Evaluate $4t + 12$ for $t = 13$	42) Evaluate $3ab - (2 + 7)$ for $a = 5$ and $b = 3$

Lesson 4-2 Understanding Exponents- Simplify each expression.

Key Reminders:

- Exponents indicate **repeated multiplication**
- Ex: $5^3 = 5 \times 5 \times 5 = 125$

43) $18 + 2^3 - (8 - 5)$	44) $5^4 - 3 \times 7$

